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Response under 37 C.F.R. 1.116
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Examining Group 1751

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mark Lelental, et al

COMPOSITION CONTAINING ELECTRONICALLY-CONDUCTIVE PARTICLES

Serial No. 10/036,126

Filed 26 December 2001

Group Art Unit: 1751

Examiner: Vijayakumar, Kallambella M

I hereby certify that this correspondence is being deposited today with the United States Postal Service as first class mail in an envelope addressed to Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Sherryl A. Payne

Sherryl A. Payne

December 8, 2004

Date

Commissioner for Patents
P.O. Box 1450
Alexandria, VA. 22313-1450

Sir:

REQUEST FOR RECONSIDERATION UNDER 37 C.F.R. 1.116

In response to the Office Action dated October 14, 2004, finally rejecting all claims presently in this application, Applicants respectfully request reconsideration of the remaining rejections in order to remove all remaining issues and to expedite allowance of this application.

Applicants are very appreciative that the Section 112 (2) rejection and Sections 102/103 prior art rejections over Wessling, Cloots et al., Muys et al., Cloots et al. with Muys et al, and Cloots with Gardner et al. have been withdrawn. Thus, the issues have been reduced considerably in the event of an appeal.

Rejection Under 35 U.S.C. §103

Claims 1-12 and 17-19 have been finally rejected as unpatentable over U.S. Patent 5,391,472 (Muys et al.) taken with U.S. Patent 5,910,385 (Gardner et al.). This rejection is respectfully traversed.

The presently claimed invention is directed to a composition for forming an electrically conductive antistatic layer that comprises:

electronically conductive polymer particles;

a neutral-charge conductivity enhancer; and

a hydrophilic polymeric binder that is gelatin or a gelatin derivative.

Applicants have found that this particular antistatic composition is useful in imaging elements that have gelatin-containing imaging layers that would be likely disposed directly over the antistatic layer. The antistatic layer also acceptably bonds to underlying subbing layers or hydrophobic supports. It would also found that despite the presence of gelatin in the antistatic composition, it is generally "independent" of humidity in its performance.

The Office Action agrees that Muys et al. fails to teach or suggest the use of gelatin or gelatin derivatives as the binders in the antistatic compositions. But the Office Action then relies upon Gardner et al. to supply this missing teaching where it provides a lengthy laundry list of film-forming hydrophilic binders for use in conductive formulations and layers (Col.15, lines 4-39).

The rejection over Muys et al. and Gardner is believed to be in error for at least two reasons: (1) the teaching of the two references would not be combined by a skilled worker in the art, and (2) even if combined, a worker skilled in the art would not use the teaching in Gardner et al. with that in Muys et al. to arrive at the presently claimed invention compositions containing electronically conductive "particles", neutral-charge conductivity enhaners, and gelatin or a gelatin derivative as the binder.

Considering first the combinability of the two references, Muys et al. is correctly described as teaching antistatic compositions. Applicants would point out, however, that the conductive materials of Muys et al. are "particles" that are dispersed in the latex binder, solvent, etc. (see e.g. Col. 3, lines 49-50). Muys et al. uses a latex polymer (not gelatin) to disperse the conductive particles (Col. 3, lines 51-55) and to provide suitable adhesion between the polyester film support (Col. 6, lines 14-18) and overlying layers. Applicants' claimed invention includes "electrically conductive polymer <u>particles</u>" but the binder is very different.

Gardner et al., however, is directed to conductive polyaniline protonic counter-ion complexes that are "solubilized" in various film-forming binders, including gelatin and gelatin derivatives (Col. 15, lines 4-34). By using the term "solubilized", Gardner et al. makes it clear that the conductive complex is not in particulate form but it is soluble in the binder and solvent and provides a continuous phase in the resulting conductive formulation (see e.g. Abstract, Col. 8, lines 14-20). While, Gardner et al. makes is clear that other particles (e.g. magnetic particles) can be dispersed in the formulation, the conductive material itself is a continuous, non-particulate phase unlike the conductive particles taught in Muys et al of those used in the present invention.

While both references are directed to antistatic compositions that can be used in various media, they are directed to different types of formulations, one with conductive particles that require contact among the particles for conductivity (Muys et al.), and the other to continuous conductive films containing a solubilized film-forming conductive complex (Gardner et al.). In Muys et al., the conductive particles are the important component whereas in Gardner et al., the conductive film carries other essential components such as magnetic particles. The Muys et al. conductive particles need to be touching for antistatic effect whereas the Gardner et al. solubilized complexes form their own conductive matrix irrespective of humidity or other conditions. The uses and formulation requirements of the two references are very different and one skilled in the art would not naturally combine both teachings. If a skilled worker was interested in particulate conductive materials (as in the present invention), he/she would not consult Gardner et al.

Not even Applicants' current teaching would suggest combining Gardner et al. with Muys et al. largely because Gardner et al. fails to teach particulate conductive materials. In developing a film-forming antistatic composition containing conductive particles, Applicants might consult the teaching in Muys et al. because it describes conductive particles. However, Gardner et al. does not, and Applicants would not even consider the solubilized compositions in Gardner et al relevant to what they want to accomplish.

Another important consideration is that Muys et al. and Gardner et al. are directed to different solvent systems for formulating their antistatic compositions. Muys et al. is directed to providing "aqueous" formulations in

which the latex binder is dispersed (Col. 3, lines 53-55). However, Gardner et al. is clearly directed to organic solvent systems in which the film-forming polyanilines can be solubilized (Col. 14, lines 42-64). The two types of systems are incompatible because the components of the antistatic compositions are clearly different and not combinable. Even though Gardner et al. provides a laundry list of "useful" hydrophilic binders, it is unlikely that most of them would be useful in the organic solvent formulations containing the noted organic solvents. One skilled in the art looking for a way to solubilize the polythiophenes of Muys et al. would not consult the organic solvent teaching of Gardner et al.

Moreover, even if the teachings are combined, they fail to teach or suggest the claimed invention because they fail to suggest Applicants' critical combination of particulate conductive particles, neutral-charge conductivity enhancers, and gelatin (or derivative) binder, and its particular uses in imaging elements containing other gelatin-containing layers.

As noted above, the two references are directed to different solvent systems. The present invention is directed to a composition containing a hydrophilic gelatin or gelatin derivative as the binder. As pointed out on page 9 (lines 21-23), the present invention provides "aqueous mixtures" of the claimed components. Thus, water and water-containing solvents are required for Applicants' compositions. The organic solvents described in Gardner et al. would be very undesirable in the present invention because all three recited composition components are likely to be insoluble or poorly dispersed in those organic solvents. In addition, the composition of this invention provides the best advantages when coated adjacent another aqueous-based formulation (i.e. a silver halide-containing emulsion layer). Thus, there is no point to having organic solvents in the present invention that would lead to significant manufacturing inefficiencies and difficulties.

In addition, the use of gelatin with conductive "particles" is going against conventional wisdom because of the propensity of gelatin to swell in high humidity. With that swelling comes a reduction in conductivity in the composition since the conductive particles are separated from each other (to be useful they must tough each other). Hence, the prior art (e.g. Muys et al.) uses non-swellable binders such as latex polymers with conductive particles. The Office Action does not point to any suggestion in Muys et al. that gelatin should

be used in place of the latex polymers of that they are equivalent. On the other hand, Gardner et al. teaches "solubilized", non-particulate antistatic compositions wherein the conductive complex is uniformly dissolved throughout the formulation so any layer swelling is not detrimental.

The teaching about binders in Gardner et al. is also instructive to show that Applicants' invention is not obvious. In Col. 15, it provides a lengthy laundry list of film-forming binders including polymeric latexes, ionic polyesters, cellulose polymers, gelatin and its derivatives, polysaccharides, and hundreds of other possibilities. <u>The preferred binders (lines 35-39) are certain methacrylate polymers, cellulose esters, polycarbonates, and polyvinyl formal. The methacrylate polymers are most preferred.</u> There is no preference for gelatin or gelatin derivatives and those specific binders are "buried" in the lengthy list of hundreds of binder possibilities. Rather, there is a preference for latex polymers that are not useful in the present invention.

To satisfy the Patent Statute for obviousness, the reference itself must provide motivation to pick gelatin or gelatin derivatives out from those hundreds of possibilities. That is not provided in either Muys et al. or Gardner et al. in any form. Among Examples 1-29 described in Gardner et al., gelatin is not used as a binder even though it is listed in TABLE I (P-15). The reference fails to provide some reason or motivation for picking out gelatin or gelatin derivatives from the hundreds of possibilities and then it fails to suggest substituting them for the polymers of Muys et al. Thus, the teaching in Muys et al. and Gardner et al. fails to satisfy the law to support a Section 103 rejection. For these reasons, the rejection over Muys et al. and Gardner et al. does not meet the legal standard of Section 103 and should be withdrawn.

It is believed that all issues and rejections have been properly considered and addressed. A prompt and favorable action by the examiner to allow this application is earnestly solicited.

Respectfully submitted,

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